TEJUS
CONSULTANTS

GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Sri. Gopikrishna Apsani (Nidhi Constructions)
Date of Testing	:	21-02-2022
Type of Mix	:	GSB
Sample I/D	:	GSB1

Sample Location:	Virupakshanagar 5th cross road.	**Date of Sampling:**	20-02-2022
		Date of testing:	21-02-2022
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2188	2188	21.88	78.12	70-100
9.5	2566	4754	47.54	52.46	50-80
4.75	855	5609	56.09	43.91	40-65
2.36	1211	6820	68.20	31.80	30-50
0.425	1933	8753	87.53	12.47	10-15
0.075	822	9575	95.75	4.25	<5
Pan	425.0				
Total	10000.0				

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by AE

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

TEJUS CONSULTANTS

Authorised Signatory

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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

TEJUS CONSULTANTS

Name of Work	:	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Sri. Gopikrishna Apsani (Nidhi Constructions)
Date of Testing	:	22-02-2022
Type of Mix	:	GSB
Sample I/D	:	GSB2

Sample Location:	Virupakshanagar 4th cross road.	**Date of Sampling:**	21-02-2022
		Date of testing:	22-02-2022
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2258	2258	22.58	77.42	70-100
9.5	2545	4803	48.03	51.97	50-80
4.75	855	5658	56.58	43.42	40-65
2.36	1125	6783	67.83	32.17	30-50
0.425	1911	8694	86.94	13.06	10-15
0.075	832	9526	95.26	4.74	<5
Pan	474.0				
Total	10000.0				

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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants, Bangalore		
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	22-02-2022		
Layer no. or level	GSB layer		
Depth of hole	200mm		
Field density:	1	2	2
Chainage	Virupakshanagar 5th cross road.'@55.00	Virupakshanagar 5th cross road.'@145.00	Virupakshanagar 5th cross road.'@205.00
Wt. of wet material from hole (Ww) gms.	5982	5977	5967
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10585	10575	10583
Wt. of sand in hole+ cone (w3) gms.	4415	4425	4417
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3335	3345	3337
Bulk density of sand (ys)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(ys))gm/cc	2.37	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.81	98.52	98.59
% compaction required	98%	98%	98%

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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Sri. Gopikrishna Apsani (Nidhi Constructions)
Date of Testing	:	23-02-2022
Type of Mix	:	GSB
Sample I/D	:	GSB3

Sample Location:	Virupakshanagar 3rd cross road.	Date of Sampling:	22-02-2022
		Date of testing:	23-02-2022
Type of material & Purpose:	GSB	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2219	2219	22.19	77.81	70-100
9.5	2578	4797	47.97	52.03	50-80
4.75	855	5652	56.52	43.48	40-65
2.36	1192	6844	68.44	31.56	30-50
0.425	1933	8777	87.77	12.23	10-15
0.075	814	9591	95.91	4.09	<5
Pan	409.0				
Total	10000.0				

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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants, Bangalore		
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	23-02-2022		
Layer no. or level	GSB layer		
Depth of hole	200mm		
Field density:	1	2	2
Chainage	Virupakshanagar 4th cross road. '@66.00	Virupakshanagar 4th cross road. '@139.00	Virupakshanagar 4th cross road. '@201.00
Wt. of wet material from hole (Ww) gms.	5966	5992	5976
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10582	10576	10583
Wt. of sand in hole+ cone (w3) gms.	4418	4424	4417
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3338	3344	3337
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.37	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.46	98.80	98.74
% compaction required	98%	98%	98%

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Client	BRUHAT BANGALORE MAHANAGARA PALIKE
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Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))

Date of Testing	**25-02-2022**		
Layer no. or level	GSB layer		
Depth of hole	200mm		
Field density:	**1**	**2**	**2**
Chainage	**Virupakshanagar 3rd cross road.'@36.00**	**Virupakshanagar 3rd cross road.'@98.00**	**Virupakshanagar 3rd cross road.'@154.00**
Wt. of wet material from hole (Ww) gms.	5988	5969	5974
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10581	10592	10576
Wt. of sand in hole+ cone (w3) gms.	4419	4408	4424
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3339	3328	3344
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37	2.36
Moisture méter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.23	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.79	98.89	98.50
% compaction required	98%	98%	98%

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Consultant	M/s Tejus Consultants, Bangalore
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))

Date of Testing	25-02-2022		
Layer no. or level	GSB layer		
Depth of hole	200mm		
Field density:	**1**	**2**	**2**
Chainage	**Virupakshanagar 3rd cross road.'@202.00**	**Virupakshanagar 3rd cross road.'@264.00**	**Virupakshanagar 3rd cross road.'@312.00**
Wt. of wet material from hole (Ww) gms.	5957	5966	5958
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10584	10592	10591
Wt. of sand in hole+ cone (w3) gms.	4416	4408	4409
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3336	3328	3329
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.37	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.50
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.21	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.37	98.84	98.59
% compaction required	98%	98%	98%

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Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**28-02-2022**
Sample Location	Virupakshanagar 4th and 5th cross road.	**Date of Testing**	**01-03-2022**

Sl. No.	**Description**		**Test No.**			**Spec Limit (%)**
			1	**2**	**3**	
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	355.00	368.00	336.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	271.00	279.00	258.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	84.00	89.00	78.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.66	24.18	23.21	
5	Average Aggregate impact value	(%)	23.69			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

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Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Virupakshanagar 4th and 5th cross road.	**Date of Sampling**	**28-02-2022**
		Date of Testing	**01-03-2022**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	355	71	539	77
16.0	12.5	1152	112	966	105
12.5	10.0	775	55	740	55
10.0	6.3	609	65	549	49
Total		**2891**	**303**	**2794**	**286**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.48
Elongation Index(%):	10.24
Combined FI+EL (%)	20.72

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Name of Work	:	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	Sri. Gopikrishna Apsani (Nidhi Constructions)
Date of Testing	:	01-03-2022
Type of Mix	:	WMM
Sample I/D	:	WMM 1

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Virupakshanagar 5th cross road.	Date of Sampling:	28-02-2022
		Date of testing:	01-03-2022
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	392	392	3.92	96.08	95-100
22.4	1795	2187	21.87	78.13	60-80
11.2	2275	4462	44.62	55.38	40-60
4.75	2013.0	6475	64.75	35.25	25-40
2.36	1395.0	7870	78.70	21.30	15-30
0.6	775.0	8645	86.45	13.55	8.0-22.0
0.075	885.0	9530	95.30	4.70	0-8
Pan	470.0	10000			
Total	10000.0				

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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS, BANGALORE	
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**03-03-2022**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	1	2
Chainage	**Virupakshanagar 5th cross road. @89.00**	**Virupakshanagar 5th cross road. @168.00**
Wt. of wet material from hole (Ww) gms.	5978	5983
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10592
Wt. of sand in hole+ cone (w3) gms.	4405	4408
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3328
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.26	98.44
% compaction required	98%	98%

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Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	Sri. Gopikrishna Apsani (Nidhi Constructions)
Date of Testing	:	04-03-2022
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Virupakshanagar 4th cross road.	Date of Sampling:	03-03-2022
		Date of testing:	04-03-2022
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	396	396	3.96	96.04	95-100
22.4	2385	2781	27.81	72.19	60-80
11.2	2482	5263	52.63	47.37	40-60
4.75	1466.0	6729	67.29	32.71	25-40
2.36	790.0	7519	75.19	24.81	15-30
0.6	809.0	8328	83.28	16.72	8.0-22.0
0.075	992.0	9320	93.20	6.80	0-8
Pan	680.0	10000			
Total	10000.0				

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TEJUS CONSULTANTS

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TEJUS
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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS, BANGALORE	
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**07-03-2022**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Virupakshanagar 4th cross road.'@85.00**	**Virupakshanagar 4th cross road.'@157.00**
Wt. of wet material from hole (Ww) gms.	5993	5980
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10585	10594
Wt. of sand in hole+ cone (w3) gms.	4415	4406
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3335	3326
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.30	98.35
% compaction required	98%	98%

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Name of Work	:	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	Sri. Gopikrishna Apsani (Nidhi Constructions)
Date of Testing	:	08-03-2022
Type of Mix	:	WMM
Sample I/D	:	WMM 3

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Virupakshanagar 3rd cross road.	Date of Sampling:	07-03-2022
		Date of testing:	08-03-2022
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	372	372	3.72	96.28	95-100
22.4	2416	2788	27.88	72.12	60-80
11.2	2442	5230	52.30	47.70	40-60
4.75	1492.0	6722	67.22	32.78	25-40
2.36	790.0	7512	75.12	24.88	15-30
0.6	846.0	8358	83.58	16.42	8.0-22.0
0.075	985.0	9343	93.43	6.57	0-8
Pan	657.0	10000			
Total	10000.0				

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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**07-03-2022**
Sample Location	Virupakshanagar 3rd cross road.	**Date of Testing**	**08-03-2022**

Sl. No.	**Description**		**Test No.**			**Spec Limit (%)**
			1	**2**	**3**	
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	369.00	380.00	347.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	288.00	295.00	269.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	81.00	85.00	78.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	21.95	22.37	22.48	
5	Average Aggregate impact value	(%)	22.27			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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TEJUS
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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Virupakshanagar 3rd cross road.	**Date of Sampling**	**07-03-2022**
		Date of Testing	**08-03-2022**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	628	85	530	75
16.0	12.5	1125	116	1009	118
12.5	10.0	775	69	730	56
10.0	6.3	618	56	572	48
Total		**3146**	**326**	**2841**	**297**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.36
Elongation Index(%):	10.45
Combined FI+EL (%)	20.82

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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS, BANGALORE	
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**10-03-2022**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Virupakshanagar 3rd cross road.'@56.00**	**Virupakshanagar 3rd cross road.'@147.00**
Wt. of wet material from hole (Ww) gms.	5987	5979
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10592	10595
Wt. of sand in hole+ cone (w3) gms.	4408	4405
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3328	3325
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.24
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.32	98.46
% compaction required	98%	98%

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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS, BANGALORE	
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**10-03-2022**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Virupakshanagar 3rd cross road.'@205.00**	**Virupakshanagar 3rd cross road.'@307.00**
Wt. of wet material from hole (Ww) gms.	5989	5991
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10593
Wt. of sand in hole+ cone (w3) gms.	4405	4407
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3327
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.38	2.38
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.24	2.24
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.53	98.51
% compaction required	98%	98%

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TEJUS
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Project	Improvements to widen portion of roads,construction of New drains,UG cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No.10
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Sri. Gopikrishna Apsani (Nidhi Constructions)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	05-04-2022
Sample Location	At plant	**Date of Testing**	05-04-2022

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	390.00	377.00	369.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	297.00	285.00	278.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	93.00	92.00	91.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.85	24.40	24.66	
5	Average Aggregate impact value	(%)	24.30			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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TEJUS

Project	Improvement to widen portion of roads construction of Vivo Annex LVL cable duct and Footpath at Doddabommasandra main road surrounding road in Ward No 16
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M/s Gopikrishna Agencies, Hubli (Karnataka)

FLAKINESS AND ELONGATION INDEX AS (IS 1386, PART I)

Type of Material	Metal		Proposed Use	BMM
Sample Location	At plant		Date of Sampling	05.04.2022
			Date of Testing	05.04.2022

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS Sieve, mm	Retained on IS Sieve, mm	Total wt. of aggregate retained on Sieves (A) gms	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7178	665	5045	352
31.5	25.0	4125	245	3635	275
25.0	20.0	2455	250	1909	233
20.0	16.0	1545	132	920	255
16.0	12.5	502	107	436	190
12.5	10.0	690	68	372	86
10.0	6.3	125	70	66	61
Total		**16710**	**1737**	**14383**	**1452**

Results

Flakiness Index(%)	10.39
Elongation Index(%)	10.15
Combined FI+EI, (%)	20.55

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